REMARKS

Claims 14-17 are currently active. Claim 13 has been canceled. Claim 17 has been added.

Applicant wishes to thank the Examiner for his detailed review and comments in the Action.

The Examiner has rejected Claims 13-16 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement and the Examiner states that the claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor, at the time the application was filed, had possession of the claimed invention. The Examiner further states that applicant's specification discloses six 8-bit quantities as opposed to a six bit quantity, and computing eight five bit hash values. Applicant's specification failed to describe any six bit quantity. See page 6, second paragraph of the Office Action dated January 19, 2010. Applicant has canceled Claim 13 and added Claim 17 to obviate this rejection.

The Examiner has rejected Claims 13-16 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to accurately point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner again states that applicant's specification only discloses six 8 bit quantities. Claim 13 has been canceled and Claim 17 has been added to obviate this rejection.

The Examiner has rejected Claims 13-16 as being anticipated by Ebert. Applicant respectfully traverses this rejection.

In regard to Claim 17, Ebert is actually the prior art Perlin noise developed by applicant. As detailed in Ebert et al. 1998, Noise is determined at point (x,y,z) by computing a

pseudo-random gradient at each of the eight nearest vertices on the integer cubic lattice and then doing splined interpolation. Ebert is very efficient but contains some deficiencies. Ebert creates discontinuities across the coordinate-aligned faces of adjoining cubic cells. These discontinuities become noticeable when a Noise-displaced surface is shaded; then the surface normal (which is itself a derivative operator) has a visibly discontinuous derivative. A second deficiency is that whereas gradients are distributed uniformly over a sphere, the cubic grid itself has directional biases, being shortened along the axes and elongated on the diagonals between opposite cube vertices. This directional asymmetry tends to cause a sporadic clumping effect, where nearby gradients that are almost axis-aligned, and therefore close together, happen to align with each other, causing anomalously high values in those regions. Thus, noticeable visual artifacts due to the simply way that gradients were chosen and blended appear. These artifacts are specifically removed by the claimed invention. Respectfully, Ebert does not teach or suggest "introducing information into a computer from which the image is produced; for each point of the image in 3D geometric space: computing a pseudo-random hash value at each vertex of a unit cube surrounding the point of the image using six + modules and seven L modules where the L module is implement as a look-up table having 64 6 bits entries; mapping the lower six bits from last stage L modules of a plurality of stages of modules to a fixed set of 64 gradient vectors where the set is chosen such that a length of each component of every vector of the 64 vectors is a power of two; based on the gradient vectors, combining with the computer the contribution from each vertex into a single interpolated result to produce the point of the image with noise interpolated texture that do not have visible grid artifacts; and after all points of the image are obtained, displaying the image on a display." Accordingly, Claim 17 is patentable over Ebert. Claims 14-16 are dependent to Claim 17 and are thus patentable.

In view of the foregoing amendments and remarks, it is respectfully requested that the outstanding rejections and objections to this application be reconsidered and withdrawn, and Claims 14-17, now in this application be allowed.

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on

9/2/11

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